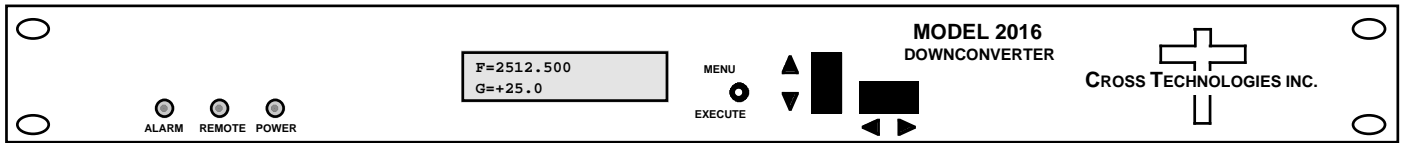


**2016-1251 Fixed Frequency Downconverter, 2.5125 GHz**

The 2016-1251 S-band Downconverter converts 2.5125 GHz ( $\pm 36$  MHz) fixed to 140 ( $\pm 36$ ) MHz with low group delay and flat frequency response. Synthesized local oscillators (LO) provide very low phase noise and  $\pm 0.01$  ppm stability frequency selection. Multi-function push button switches select the gain, and other variable parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), remote operation (yellow) or the TX carrier is muted (yellow). Gain is adjustable manually over a 0 to +50 dB range as adjusted by the front panel multi-function push-button switches. Remote operation allows selection of gain and other variable parameters. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are Type N (female) for the RF input and BNC (female) for IF output and optional external reference input / output. The External 10 MHz reference Option also includes a 10 MHz output connector, which provides the selected (internal or external) 10 MHz reference signal output. The unit is powered by a 90-260 VAC power supply, and housed in a 1 3/4" X 19" X 16" rack mount chassis.



**Front Panel**

**EQUIPMENT SPECIFICATIONS\***

**Input Characteristics (RF)**

Impedance/Return Loss 50 $\Omega$ /12 dB  
 Frequency 2.5125 GHz ( $\pm 36$  MHz) Fixed  
 Input Level Range -70 to -20 dBm  
 Input 1dB compression -15 dBm

**Output Characteristics (IF)**

Impedance/Return Loss 75 $\Omega$ /18 dB  
 Frequency 140  $\pm$  36 MHz  
 Output level/max linear -20dBm / -10dBm  
 Output 1 dB compression -5 dBm

**Channel Characteristics**

Gain range (adjustable) 0.0 to +50.0 dB  
 Image Rejection > 50 dB, min.  
 Frequency Response 2.5125 GHz ;  $\pm 0.5$  dB, 72 MHz BW  
 Spurious Response < -60 dBc, in band, typical; -55 dBc max.  
 Group Delay, max 0.0035 ns/MHz<sup>2</sup> parabolic; 0.025 ns/MHz linear; 1 ns ripple  
 Frequency Sense Inverting or Non-inverting (selectable)

**Synthesizer Characteristics**

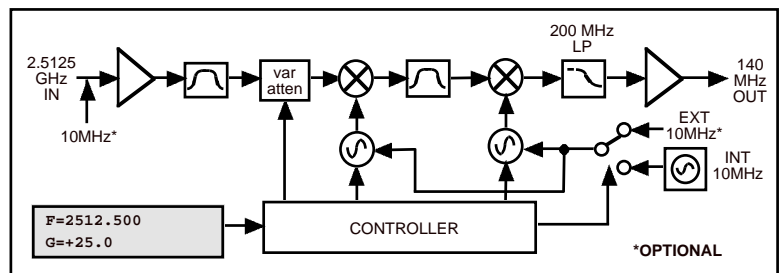
Frequency Accuracy  $\pm .01$  ppm internal reference  
 Frequency Step None; Fixed Frequency, non-tunable  
 10 MHz In/Out Level 3 dBm  $\pm$  3 dB (option E)  
 Phase Noise @ Freq | 10Hz 100Hz 1kHz 10kHz 100kHz 1MHz  
 dBc/Hz | <-65 <-77 <-82 <-90 <-102 <-110

**Controls, Indicators**

Freq/Gain Selection direct readout LCD; manual or remote selection  
 Pwr; Alarm; Remote Green LED; Red LED; Yellow LED  
 Remote RS232C, 9600 baud (RS485, option Q)

**Other**

RF Connector N-type (female)  
 IF Connector BNC (female)  
 10MHz Connectors BNC (female) 50 $\Omega$ /75 $\Omega$  (option E)  
 Alarm/Remote Connector DB9 (female) - NO or NC contact closure on Alarm  
 Size 19 inch, 1RU standard chassis 1.75"high X 16.0" deep  
 Power 90-260 VAC, 47-63 Hz, 45 W max



**Block Diagram**

**Available Options**

E - External 10 MHz ref input & output  
 Q - RS485 Remote Interface  
 O - LO Adjust

**Connectors/Impedance**

B - 75 $\Omega$  BNC (RF), 75 $\Omega$  BNC (IF)  
 C - 50 $\Omega$  BNC (RF), 75 $\Omega$  BNC (IF)  
 D - 50 $\Omega$  BNC (RF), 50 $\Omega$  BNC (IF)  
 M - 50 $\Omega$  N-type (RF), 50 $\Omega$  BNC (IF)

\*10°C to 40°C; Specifications subject to change without notice